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ABSTRACT

This curriculum guide contains computer skills activities for the public schools of North Carolina; these lesson plans are designed specifically for grades 4-7 and focus on telecomputing. The lesson plans for each grade include a list of materials needed, lesson time, teacher preparation activities, outline of activities, and instructional measure. Social studies, communication, computer and information skills objectives addressed by the lesson are also outlined. Worksheets and other support materials are included with the lessons. (AEF)

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ED 405 801

Telecomputing

Computer Skills Curriculum

Terms

Telecomputing
Modem
Upload
Download
Bulletin Board Services
E-mail
Log on
Log off
Internet
Information Highway

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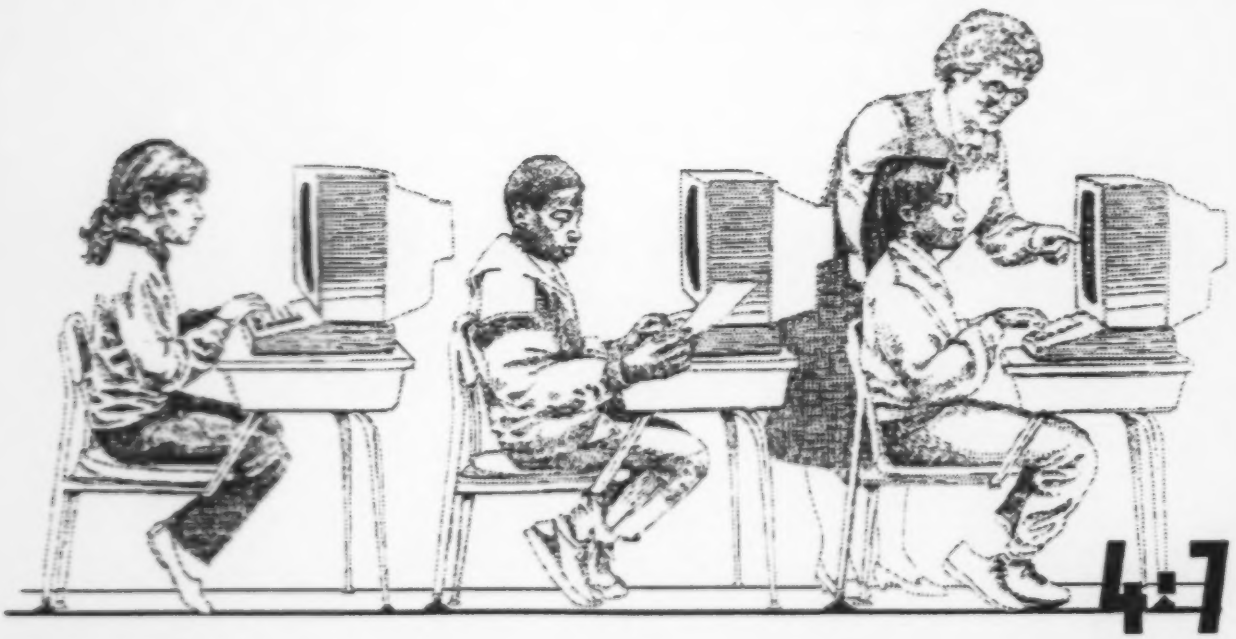

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INSTRUCTIONAL TECHNOLOGIES DIVISION
PUBLIC SCHOOLS OF NORTH CAROLINA
301 NORTH WILMINGTON STREET
RALEIGH, NC 27601-2825
FAX #: 919-733-4762

TITLE: NC Computer Skills Curriculum Lesson Plans

BY: Instructional Technology (formerly Computer Services Section)
Public Schools of North Carolina

DATE: 1994-1995

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

Title: Interview Activity
Grade: 4
Competency 1.2: Identify computers as tools for accessing information.
Measure 1.2.1: Describe examples of people using computers to access information in daily life (e.g., teachers looking up grades from office computers, bank customers getting information from bank machines, students finding books from online catalogs, travel agents reserving airline tickets).

Objectives Addressed by This Lesson

Communication Skills

1.3 The learner will apply response strategies to comprehend or convey experiences and information.

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 4)

7.3 Explain how political institutions in North Carolina help people meet their needs.

7.4 Explain how economic institutions in North Carolina help people meet their needs.

10.3 Evaluate the influence of discoveries, inventions, and technological innovation on economic interdependence.

11.1 Identify and describe changes which have occurred in ways of living in North Carolina.

11.3 Evaluate the effects of change on the lives of the people of North Carolina.

Information Skills

1.4 The learner will relate ideas and information to life experiences.

Materials Needed: Handouts with the student generated questions (Day 1) ready for each member of the class on Day 2; a copy of the worksheet for each student in the class; a speaker phone or other conference call device (optional).

Time: Two class sessions.

Activities

Pre-Activities:

1. Determine which type of interview of a community worker the class or class members will conduct:
   a. Interview of parent(s) or friends of parents.
   b. Telephone interview from home with a community worker.
   c. Telephone interview from class with a community worker if a speaker phone or other conference call device is available.
   d. Interview in person if the community worker will come to class.
2. Before Day 2, make copies of the student generated interview questions for each member of the class.

Activity:

Day 1

1. Explain to the class that more and more people today use information in doing their work and that much of that information is on computer disk. Name several occupations and ask the class how each would use information to do their work. Some examples are: police, pharmacist, teacher, banker, farmer, and restaurant manager.
2. Tell the class that they will be conducting an interview with a community worker about how they use information in their job and specifically how they use computers to gain access to the information. Also explain that it is always a good idea to have a list of questions ready when you are interviewing someone.
3. As a class, write four interview questions to learn:
   - how people use computers to access information that they need in their work.
   - where the information comes from and how it is generated.
   - how having computers to access information has changed their work.
   - how having computers to access information has changed their lives.
4. Instruct the students to use these questions to interview their chosen worker.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

Computer Skills: (Gr. 4)

1.2 Identify computers as tools for accessing information.

Day 2

1. Either introduce the guest professional and moderate the interview by the students or have the students tell who they interviewed and one of the answers they received.
2. After the interview is over or all students have reported, discuss with them what they have learned about how computer access to information affects how people work. Specifically, address the original four questions.

Measure

Hand each student a worksheet to write a paragraph describing how one of the listed occupations might use computers to access information to improve their work.

Interview Activity **Grade 4 Obj. 1.2**

Worksheet

Student Name

Instructions: Write a paragraph describing how one of the following community workers might use computers to access information to improve his/her work.

Police

Banker

School Principal

Farmer

Doctor

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Computer Skills Curriculum

4

Title: Accessing Distant Information
Grade: 4
Competency 1.2: Identify computers as tools for accessing information.
Measure 1.2.2: Describe two types of information from distant databases that you would like to access using a computer.

Materials Needed: Enough copies of black line master **Information Accessing Activity Worksheet** for each student.

Time: One class session.

TERMS
Telecomputing

Activities

Pre-Activities:
With the Media Professional
1. Identify resources on types of information available on computers.
2. Locate information on how policemen, doctors, and scientists use computers to access information.

Activity
1. Explain to the class the following concepts:
   - Approximately nine out of every ten pages of information that is generated today is typed into a computer before it is printed to paper.
   - Millions of computers around the world are connected together so that the information that is on one computer can be read by other computers.
   - Any computer can be connected to this network through telephone lines.
   - Sharing information from computer to computer is called *telecomputing*.
2. Ask the class if they can think of any type of information that a policeman might want to be able to access using a computer. Explain that the information can be located on another computer any place in the world. Ask the same question for a doctor and for a scientist.
3. Hand out a copy of the **Information Accessing Activity Worksheet** to each student in the class. Explain to the class that each student is to record two types of information that they would like most to be able to access with a computer. Explain that the information can originate any place in the world. Also they should think of two types of information that would be important for another member of their family to be able to access with a computer. They are to record this information on the form.
4. Have several students report the types of information they recorded for themselves and for family members.

Measure
Have each student write a letter to the principal to explain why all fourth graders should be able to use a computer to access information on (topic selected by student).

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 4)

7.3 Explain how political institutions in North Carolina help people meet their needs.

7.4 Explain how economic institutions in North Carolina help people meet their needs.

10.3 Evaluate the influence of discoveries, inventions, and technological innovation on economic interdependence.

11.1 Identify and describe changes which have occurred in ways of living in North Carolina.

11.3 Evaluate the effects of change on the lives of the people of North Carolina.

Information Skills

1.1 The learner will explore reading, listening, viewing sources and formats.

1.3 The learner will critique information sources and formats.

2.1 The learner will explore research processes that meet information needs.

Computer Skills: (Gr. 4)

1.2 Identify computers as tools for accessing information.

Information Accessing Activity Worksheet

Instructions: Write down two types of information that you and a family member might want to be able to access with a computer. This information could exist anyplace in the world.

You: Family Member:

1.

2.

cut here

Obj. 1.2 Grade 4

Information Accessing Activity Worksheet

Instructions: Write down two types of information that you and a family member might want to be able to access with a computer. This information could exist anyplace in the world.

You: Family Member:

1.

2.

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APPLICATION

Computer Skills Curriculum

5

Title: Compu-News
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.1: Describe the advantages of obtaining news by telecomputing from a computer accessible news service vs. from a daily newspaper.

Materials Needed: A copy of **Compu-News Announcement Sheet** for each student.

Time: One class session and one homework assignment.

TERMS

Telecomputing

Activities

Activity:

1. Explain to the class that there are businesses today that provide news online. This means that people can use their own computer to access over telephone lines current news from these online services.
2. Ask the class how many of them receive a daily or weekly newspaper. Ask the class the following questions to get them thinking about newspapers.
   - What kind of news is reported in their newspaper?
   - What sections of the newspaper do they read?
   - What sections do other members of their family read?
3. Hand out a copy of the **Compu-News Announcement Sheet** to each student in the class. Explain that this is an announcement of a fictitious online news service.
4. Divide the class into groups of three or four. Assign each group to look over the features of the Compu-News service and then write down as many as they can of advantages that this type of service has over newspapers.
5. After about 15 or 20 minutes, have a member of each group report on their decisions. Keep a running list of advantages on the board and discuss similarities from each group.

Measure

For homework, assign each student to write a letter to a newspaper company explaining why they should consider offering an online version of the newpaper.

Extended Activity:

Many daily newspapers have Internet e-mail. If you find that your local paper has such a service and that you have access, have your students type their letters into a computer using a word processing program, and then e-mail them to the newspaper directly.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Information Skills

1.2 The learner will IDENTIFY criteria for excellence in design, content, and presentation of information and formats.

2.1 The learner will EXPLORE research processes that meet information needs.

Computer Skills: (Gr. 5)

1.2 Identify computers as tools for accessing current information.

Compu-News
Announcement Sheet

ANNOUNCING

COMPU-NEWS

A new online news service for people who want to know!

Just dial up our brand-new news service with any type of computer and:

- **Search for particular news stories by typing in the name of a person; a country, state, or city; or a topic of interest.**
- **Read news stories that are updated every half hour by our staff of global network news reporters.**
- **Read the full text of major speeches made by the President and other notable news personalities.**
- **Trace hurricanes and other weather patterns with our online weather map.**

For only 15¢ a minute, you can keep up with the news around the world as it happens.

Requires a computer, modem, and phone line.

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Computer Skills Curriculum

5

Title: On-The-Hour
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.2: Discuss and write a paragraph on how accessing current database information with a computer improves the work of a pharmacist, home supply clerk, motel manager, or agriculture extension agent.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Information Skills

2.1 The learner will EXPLORE research processes that meet information needs.

Social Studies: (Gr. 5)

11.3 Evaluate the effects of change on the lives of the people of the United States, Canada, and Latin America.

Computer Skills: (Gr. 5)

1.2 Identify computers as tools for accessing current information.

Materials Needed: A copy of the **Instant Access Worksheet** for each member of the class.

Time: One class session.

TERMS
Telecomputing

Activities

Activity:

1. Remind students that a computer can be a tool for accessing information.
2. Ask them if they know of any people who might use a computer to access information in their work.
3. Explain that many online information services update their information daily and even hourly and that this makes being able to access the information using a computer very important to many people. As an example, describe how people who work in banks use computers to check on account balances in banks in other cities.
4. Divide the class into groups of three or four and hand out the **Instant Access Worksheet** to each member of the class. Explain that each group is to discuss a different type of information that would it be important to receive quickly for a pharmacist, home supply clerk, motel manager, or agriculture extension agent and write the types of information down on their worksheets. Have the students work in groups for about 10 minutes.
5. End the group work and have students use the rest of the class session to write a paragraph on why it would be important for each of the workers to be able to access the information using a computer.
6. Have several students read their type of information for one of the workers and their paragraph.

Measure

Have each student to write a paragraph (word process, if possible) to support the phrase: "A motel manager in 1994 has many advantages that a motel manager in 1954 did not have because today's manager uses a computer to access information."

Instant Access Activity

Obj. 1.2 Grade 5

Instant Access Worksheet

Instructions: In your group, discuss and write down a different type of information that would be important for each of the following workers to receive quickly. On your own, write a paragraph to explain why it would be good for each of the following workers to be able to access this information quickly using a computer.

Pharmacist

Type of information?

Why use a computer?

Home Supply Clerk

Type of information?

Why use a computer?

Motel Manager

Type of information?

Why use a computer?

Agriculture Extension Agent

Type of information?

Why use a computer?

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Computer Skills Curriculum

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Objectives Addressed by This Lesson

Information Skills

2.1 The learner will explore research processes that meet information needs.

Computer Skills: (Gr. 5)

2.4 Identify computers as tools for accessing current information.

Title: Tele-Concentration Activity
Grade: 5
Competency 2.4: Identify telecomputing terms (e.g., modem, upload, download, bulletin board, E-mail).
Measure 2.4.1: Using two sets of index cards, one with telecomputing terms and the other with definitions, play a concentration game matching the terms with the definitions.

Materials Needed: A watch or clock for keeping time, a copy of **Definition Sheet I** and **Definition Sheet II** for each group of students with the definitions cut apart, a set of index cards (two for each term; one with the word and one with the definition) for each group of students.

Time: Two class sessions.

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Modem
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Bulletin Board Service
E-mail
Log on
Log off
Internet
Information Highway

Activities

Pre-Activities:

1. Identify groups of five students each.
2. Announce to the class that tomorrow they will be working in groups to learn some words related to telecomputing. Provide each student two words with definitions, and explain that they will be responsible for becoming experts on each word before tomorrow.
3. Explain that as a homework assignment, each student is also to devise a way to teach all of the members of their group the two words that they have been assigned. Explain that they will have only ten minutes to teach their two words.

Activity:

1. Arrange the class into the groups that were established during the previous session. For each group, assign the numbers 1 to 5 to the group members.
2. Explain to the groups that student one will be the first group teacher and that the group teacher will have ten minutes to teach them their two telecomputing words. Then student two will be the group teacher, and so on.
3. Check your watch or clock for the time, and tell student one to begin. At the end of ten minutes have the next student begin. Continue this until each student has been a group teacher.
4. Give each group a prepared set of index cards (see materials above). Have a member of the group shuffle the cards and then arrange them on a floor or table face down.
5. For the remainder of the class session, have the groups play concentration. Each student can turn up two cards with the goal of having a term match the appropriate definition. If the match does not occur, the cards should be turned back down and the next student given a turn.

Measure

Given a sheet of paper with telecomputing terms and definitions, have the students match the terms with the correct definition.

Definition Sheet I

Modem	**A device that permits a computer to transmit and receive data over a telephone line.**
Upload	**Sending a disk file from your computer to another computer.**
Download	**Transferring information electronically from another computer, to your computer.**
Bulletin Board Service	**A place on the network where public messages can be left and one message can reach all users.**
E-mail	**Private messages, called electronic mail, that are sent and received over a computer network.**

cut here

cut here

cut here

cut here

cut here

Definition Sheet II

Log On	**The act of connecting with a computer system and entering your user identification and password.**

cut here

Log Off	**The act of signing off of and disconnecting from a computer system.**

cut here

Internet	**A global network of thousands of other computer networks that offers e-mail and information retrieval services to millions of people.**

cut here

cut here

Information Highway	**A term used when discussing information networks of the future which will likely carry video and audio as well as computer data.**

cut here

Tele-computing	**The act of sending (or receiving) information to another computer via modem and phone line or local area networks (LAN). The exchange of information can be within a building or around the globe.**

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Title: Watch the Computer
Grade: 5
Competency 2.4: Identify telecomputing terms (e.g., modem, upload, download, bulletin board, E-mail).
Measure 2.4.2: Identify telecomputing terms and features while observing the teacher using an electronic bulletin board service or simulation.

Objectives Addressed by This Lesson

Communication Skills

1.3 The learner will apply RESPONSE strategies to comprehend or convey experiences and information.

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Information Skills

2.1 The learner will EXPLORE research processes that meet information needs.

Computer Skills: (Gr. 5)

2.4 Identify telecomputing terms (e.g., modem, upload, download, bulletin board, E-mail).

Materials Needed: A computer equipped with a modem, telecomputing software, and phone line; an LCD panel is optional; an account with an online service; a copy of the Activity Sheet for each student.

Time: One class session.

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Activities

Pre-Activities:

1. Remind the class that computers can be used as tools for accessing information and communicating with other people.
2. Review the following telecomputing terms with the class: modem, upload, download, bulletin board service, e-mail, log on, log off.

Activity:

1. Take the students in your class to the telecomputing station in your school.
2. Explain to the class that you are going to demonstrate an online session and that they are to observe the session and label the different things that you do during the session using the telecomputing terms they have learned.
3. Hand out a copy of the **Activity Sheet** to each student.
4. They should write the term on the numbered lines in the order that they observe the activity or recognize the feature/item used.
5. Conduct an online session, explaining each step that you take. Be careful not to say any of the terms on the activity sheet. You might use the **Online Script** as a guide for the session.

Measure

As students observe the teacher conducting an online session, have them identify each step using the correct telecomputing terms.

Activity Sheet

Upload	**E-Mail**	**Modem**
Log On	**Download**	**Log Off**
Bulletin Board Service		

1. _____ **5.** _____

2. _____ **6.** _____

3. _____ **7.** _____

4. _____ **8.** _____

Online Script

Say:	Today I am going to demonstrate an online session with a service called *<the name of your service>*. Right now I am going to load my telecomputing software and turn on this device [MODEM] which will allow my computer to communicate over the phone lines.
Do:	Have your telecomputing software initiate the phone call.
Say:	We have connected to the *<the name of your service>* service and it is asking me to identify myself. I'll type in my user name and password [Log On].
Do:	Enter your user I.D. and password.
Say:	Now that I've connect to this online service I can send public messages to other people who use this system [Bulletin Board Service].
Say:	But first I'm going to check to see if I have any private messages, and also send a private message to a friend.
Do:	Go to the e-mail section and check to see if you have any private messages. Then send a short message to a friend [e-mail].
Do:	You might take this opportunity to demonstrate any other features of the service that you would like to show your class.
Say:	Now I'm going to disconnect from the *<the name of your service>* service.
Do:	Exit the service [Log Off].

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Title: Play the Computer Part
Grade: 5
Competency 2.5: Compare the process of sending and receiving messages: electronically vs. non-electronically (e.g., E-mail vs. U.S. Mail, electronic bulletin board vs. classroom bulletin board).
Measure 2.5.1: Role play the process of sending one message electronically and another through the U.S. mail.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Information Skills

1.1 The learner will EXPLORE reading, listening, viewing sources and formats.

1.2 The learner will CRITIQUE information sources and formats.

1.5 The learner will COMMUNICATE reading, listening, and viewing experiences.

Computer Skills: (Gr. 5)

2.5 Compare the process of sending and receiving messages: electronically vs. non-electronically (e.g., E-mail vs. U.S. Mail, electronic bulletin board vs. classroom bulletin board).

Materials Needed: No materials needed.

Time: Two class sessions.

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Activities

Activity:

Day 1

1. Ask the class if anyone can describe any advantages that sending messages through telecomputing might have over sending them by U.S. mail.
2. List the advantages on the left side of the board.
3. Ask the class if anyone can describe any advantages that sending messages through the U.S. mail might have over sending them by telecomputing.
4. List these on the right side of the board.
5. Explain to the class that they are going to demonstrate both processes — e-mail and U.S. mail — by putting on skits.
6. Divide the class into groups of four. Assign each group to do a skit for either e-mail or U.S. Mail. Explain that the skit should involve each member of the group, and should demonstrate the process of messaging from the sending of a message to its reception. Tell the class that they will have the rest of the period to plan their skits and will be performing them the next day.

Day 2

1. Before the groups begin presenting their skits, assign the students in the audience to count the number of steps that each group uses in their demonstrations.
2. At the end of each skit, ask the class how many steps they counted for each group.
3. At the end of all the skits, ask the class if anyone can describe any significant differences between using e-mail and using the U.S. mail to send messages.

Measure

After planning and performing skits demonstrating the process of sending message by e-mail and by U.S. mail, have students write (or word process) a paragraph on at least two significant differences between the two processes.

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Title: Electronic Survey Activity
Grade: 5
Competency 3.2: Use telecomputing hardware and software to communicate with a distant computer or an online service.
Measure 3.2.1: Conduct a class survey and share the results with a class in another state via an electronic bulletin board.

Materials Needed: A computer with word processing software, telecomputing software, modem, and phone line; (An LCD panel is optional); an account with an online bulletin board service such as FrEdMail or Learning Link; a wall chart for collecting survey information; a map of the United States. Sample survey message (provided).

Time: One class session and on-going.

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Activities

Activity:

1. Remind the class that computers can be used to access information from lots of other people using electronic bulletin boards.
2. Explain to the class that they are going to conduct an electronic survey by sending a message to a bulletin board service.
3. Discuss differences in lifestyles in various regions of the United States. Ask the class how people in the Plains States might have different lifestyles from people on the East Coast. Ask them to try to explain why these differences exist.
4. Hand out a copy of the survey message you are going to send with the questions. Ask the class if there are any changes or additional questions they would like you to include. Add no more than five additional questions since a long survey may not generate as many responses. If there are additional questions, add them using a word processor as your class observes or have the students key the questions.
5. Conduct the survey with your class. Place the results on the survey wall chart so that as results from the electronic survey come in they can be compared with the class data.
6. Take the class to the telecomputing center in the school and arrange the monitor so all class members can see. Dial the bulletin board service, go to the public messaging section (sometimes called bulletin boards, conferences, newsgroups, or forums) and upload your survey message to a section that many teachers at your grade level use. The message can be posted to more than one section.
7. Check you e-mail frequently. As survey responses start coming in, post them on the survey wall chart. You might also mark the locations of the survey responses on a map of the United States.
8. As each new survey response is posted, ask the class to try to explain any significant differences between answers from different regions of the United States.

Measure

Have students write (word process if possible) a paragraph on the benefits of conducting a survey by telecomputing.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 5)

1.1 Identify, locate, and describe major groups of people, past and present, in the United States, Canada, and Latin America.

1.2 Describe similarities and differences among the people of the United States, Canada, and Latin America.

2.3 Analyze economic, social, and political situations which involve ethical and moral dilemmas.

4.1 Define region and identify various regions within the Western Hemisphere.

4.2 Compare the physical and cultural characteristics of regions within the Western Hemisphere and within the United States, Canada, and Latin America.

5.1 Explain how people of the Western Hemisphere adapt and have adapted to their environment.

5.2 Describe how the people of the United States, Canada, and

TELECOMPUTING

Sample Message

Latin America use and modify their physical environment.

6.3 Judge how changes in the movement of people, ideas, and goods have affected ways of living in the Western Hemisphere.

7.2 Cite examples of the people of the United States, Canada, and Latin America meeting their social needs through family life, education, religion, and other cultural activities.

Computer Skills: (Gr. 5)

3.2 Use telecomputing hardware and software to communicate with a distant computer or an online service.

Dear Teachers,

We, in <your town and state here>, would like to conduct a survey of classes across the United States. We are learning about different regions of the United States and would appreciate your help to collect information by answering the attached questions.

Please return one copy of the completed survey to me at <your e-mail address here>. If you would like, I can send you a copy of the survey results. Just indicate in your return message that you would like a copy of the results.

Thank you in advance!

<your name here>

1. What is the name of your state?
2. What is the population density of your state?
3. What is the average temperature of your state?
4. What is the population of your town/city?
5. If you do not live in a major city, how far away is the nearest city in your state of at least 100,000 people?
6. Who are the major employers in your area and what do they produce?
7. In a single issue of your local newspaper, what is the average annual salary for advertised jobs and what is the average price for advertised homes?
8. What are the top three favorite foods in your class?

For the next two questions, have your students calculate the average for your class.

9. How many times have you gone to a theater to see a movie in the last 2 months?
10. How many hours a day do you spend watching T.V. at home?

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: International Telecomputing
Grade: 6
Competency 1.1: Identify ways that telecomputing promotes a global community.
Measure 1.1.1: Use the World Almanac to compare the number of telephones per capita in a variety of countries. List ways that telecomputing could affect life in these countries.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

6.1 Analyze the movement of people, goods, and ideas within and among the countries of Europe including nations formerly in the Soviet Union and other places in the world.

6.2 Compare ways in which people, goods, and ideas moved in the past in Europe including areas formerly in the Soviet Union with their movement today.

6.3 Judge how changes in the movement of people, ideas, and goods have affected ways of living in Europe including areas formerly in the Soviet Union.

9.3 Assess the effects of the unequal distribution of resources.

10.2 Assess causes and effects of increasing international economic interdependence.

10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Computer Skills: (Gr. 6)

1.1 Identify ways that telecomputing promotes a global community.

Materials Needed: One copy of the your most recent World Almanac.

Time: One class session

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Activities

Pre-Activities:
With the Students

1. Assign a student to use the World Almanac to find the number of telephones per capita, the literacy rate, and the life expectancy for each of the following countries:

France	Germany	Sri Lanka	Somalia
Iraq	United States	Japan	Bolivia

2. Remind students that a computer can be used to access information from other computers, usually through the telephone lines.

Activity:

1. Write the names of the countries listed in the *Pre-Activities* on the board.
2. Ask the student who conducted the research to report the information. Record this information on the board forming columns for the name, number of telephones, literacy rate, and life expectancy for each country.
3. When all of the information has been recorded on the board, ask the class to study it and see if they can discover any relationships between the number of telephones and the other two items. They should say that countries with a high number of telephones per capita also have high literacy rates and life expectancies.
4. Next, ask the class if this means that having lots of telephones causes people to be smarter and healthier. The answer should be "no," rather that countries that can afford lots of telephones can also afford schools and hospitals.
5. Divide the class into groups of four. Have each group discuss how telephone lines, computers, and modems could help the four countries with the lowest number of phones, literacy rate, and life expectancy to improve their education and health. Ask them to make a list of types of information the people in these countries might access from the other four countries, using telecomputing, to improve their standards. Explain to the class that they have fifteen minutes to complete this task.
6. After 15 or 20 minutes, have a representative from each group read their list to the rest of the class explaining how each type of information would improve education and health in those countries.

Measure

Have students list types of information that people in underprivileged countries might use telecomputing to access in order to improve life in those countries.

ISSUES
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Computer Skills Curriculum

6

Title: Effects of Telecomputing
Grade: 6
Competency 1.1: Identify ways that telecomputing promotes a global community.
Measure 1.1.2: Given a list of topics (e.g., news, research, disaster relief, sports, banking, education), create a word processed report on how telecomputing can affect that topic.

Materials Needed: A computer in the classroom or a computer lab with word processing software.
Time: Three class sessions.

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Activities

Activity:
Day 1

1. Remind students that computers can be used to access information from other computers.
2. Remind students that one advantage of using telecomputing to access information is that computers can find the information much faster than the human eye.
3. Write the following words on the board:

News	Scientific Research	Disaster Relief
Sports	Banking	Education

4. Explain to the class that they will have an assignment tomorrow to write a report on how telecomputing can effect one of these areas of activity. Assign each student one of the areas of activity on which they will report. Record this information. Tell them that they can do research if necessary.

Day 2

1. Divide the class into groups with all of the students working on *news* in one group, *scientific research* in another, etc. Explain that each student will report to the rest of the group the ways that they thought telecomputing might affect their area of activity. Tell them that other students should take notes on ideas that they did not have on their list.
2. Have the students return to their places and take out a sheet of paper. Assign them to write a report on how telecomputing might affect their area of activity. Students should complete the activity for homework.
3. During the next trip to the computer lab or using a computer in the classroom, have each student key his/her report into the computer using a word processing program, edit it, print it out, and submit it to the teacher.

Extra Step: Report to the class at the beginning of the activity that you will be posting their reports on a computer network for other classes around the world to read. Once the reports have been completed, batch the files into a single file and post on one or more educational forums (e.g., "Discussion Groups" on Learning Link or "Newsgroups" on FrEdMail).

Measure
Given an area of activity such as medicine, education, or entertainment, have students write a description of ways that telecomputing might affect that activity.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Information Skills

1.5 The learner will COMMUNICATE reading, listening, and viewing.

Computer Skills: (Gr. 6)

1.1 Identify ways that telecomputing promotes a global community.

ISSUES
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Computer Skills Curriculum

6

Title: International Exchange
Grade: 6
Competency 1.1: Identify ways that telecomputing promotes a global community.
Measure 1.1.3: Participate in an exchange of electronic mail with students in a foreign country via a telecomputing project. Survey student attitudes and knowledge about the country before and after the exchange.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

1.1 Identify and describe major groups of people, past and present, in Europe including areas formerly in the Soviet Union.

1.2 Describe similarities and differences among the peoples of Europe including areas formerly in the Soviet Union.

1.3 Assess the role and status of individuals and groups in Europe and nations formerly in the Soviet Union, past and present.

4.3 Distinguish among regions using economic development as the criterion.

7.2 Cite examples of people of Europe including areas formerly in the Soviet Union meeting their needs through family life, education, religion, and other cultural activities.

7.3 Assess political and economic institutions in Europe including areas formerly in the Soviet Union in terms of how well they enable people to meet their needs.

Materials Needed: An account on a telecomputing service that provides e-mail access to classes in another country; a computer with modem, printer, phone line, telecomputing and word processing software; two copies of the survey sheet for each student.

Time: Five class sessions

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Activities

Pre-Activities:

1. Monitor public message centers on a network that holds regular postings from foreign countries (call.espbbs on FrEdMail or Learning Link). Find a posting from a teacher in a foreign country and send that teacher a message explaining that you are looking for a class in a country other than the United States to participate in a simple project. Explain the terms of this activity and ask if the teacher would be interested in participating.
   or
   Post a message to a public message center used by foreign educators. In the message explain that you are looking for a teacher in a country other than the United States to participate in a simple project. Explain the terms of this activity and ask any interested teachers to respond as soon as possible.
2. Send your foreign teacher partner a message with the survey questions and ask that each student in that class complete the survey. Promise to do the same. Also establish a date to e-mail the essays to the partner class.

Activity:

Day 1

1. Explain to the class that millions of people around the world use computers to send messages to other people everyday.
2. Hand out a copy of the survey sheet to each student in the class. Ask them to write the name of their partner class' country and to place a check by *Before Exchange*. Ask them to answer the questions based on their impressions of that country.
3. When they have finished, take up the sheets and explain to the students that a class in the foreign country is also filling out a similar survey on the United States. Tell them that they are each to write an essay about the United States to be e-mailed to the class in the foreign country. Explain that the class in the foreign country is writing essays about their country which they will e-mail to the United States.
4. Assign the students to begin writing an essay about life here in the United States. Explain that they should address the issues in the survey while writing their essay. Allow the class to spend the rest of the class period writing and ask them to

10.3 Evaluate the influence of inventions, discoveries, and innovations on economic interdependence.

Information Skills

1.5 The learner will COMMUNICATE reading, listening, and viewing.

Computer Skills: (Gr. 6)

1.1 Identify ways that telecomputing promotes a global community.

complete their work for homework.

5. While the class is writing, compile survey results. Then report back to the class the percent of students who said *yes* and *no* for the first three questions, and some of the answers that were given for the last two questions.

Day 2

1. Have each student enter his/her essay into a computer using a word processing program, edit the essay, save it to disk, and print it.
2. Take up the printouts, and proof each essay making editing suggestions. (Use the word processing editing chart for the Computer Skills Curriculum).

Day 3

1. Return the reviewed essays to the students and have them make the edits and any other changes they would like using a computer and word processing. Ask them to re-print the essays and re-save them.
2. Read the essays one more time before sending them to the foreign class.
3. Batch the essays together into a single file and send the file to the foreign class through e-mail.

Day 4

1. When the essays from the foreign class arrive, print them and distribute them to the class. Have the students read silently the essay they have received, and then pass it on to another student. Continue this for about 20 minutes.
2. Re-administer the survey to the class having the students check *After Exchange*.
3. When the class has finished the surveys, take them up, compile the results as before and then record both sets of results.
4. Ask the class if they see any changes in their attitudes and knowledge about the foreign country after the contact by telecomputing. Ask them to explain.
5. E-mail both sets of results to the foreign class.

Day 5

1. When the new survey results have arrived from the foreign country, record them and the earlier results on the board. Ask the class if they see any changes in the attitudes of the foreign students after the contact by telecomputing.

Measure

Have students describe how global telecomputing affected what they thought about people in another country.

Survey Sheet

Name of the Country: _____ Student's Name: _____

Before Exchange [ ]
After Exchange [ ]

1. Are the people in this country as rich as people in the United States? Yes [ ] No [ ]
2. Are the people in this country as happy as people in the United States? Yes [ ] No [ ]
3. Do the people in this country eat the same food as people in the United States? Yes [ ] No [ ]
4. What are the important problems that people in this country face?
5. What do sixth graders in this country enjoy doing during their spare time?

ISSUES
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Computer Skills Curriculum

6

Title: Global Environment Project
Grade: 6
Competency 3.4: Use telecomputing hardware and software to communicate with a distant computer or an online service.
Measure 3.4.1: Post a message on an electronic bulletin board requesting environmental information from other sites. Compare this information with research findings on environmental problems in Europe and the former Soviet Union.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

5.1 Explain how the people of Europe including areas formerly in the Soviet Union have adapted to their environment

5.2 Describe how the people of Europe including areas formerly in the Soviet Union use and modify their environment.

5.3 Analyze causes and consequences of the misuse of the physical environment and propose alternatives.

Information Skills

2.1 The learner will EXPLORE research processes that meet information needs.

2.2 The learner will ENGAGE in a research process to meet information needs.

Science: (Gr. 6)

4.1 Exhibit a positive attitude toward learning and experiencing science.

4.2 Exhibit a positive attitude for the need for conservation, and wise use of natural resources.

Materials Needed: An account on a telecomputing service that provides e-mail access to other teachers in the United States; a computer with modem and phone line; LCD Panel (Optional); word processing and telecomputing software; materials for drawing graphs or graphing software.

Time: Seven class sessions.

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Activities

Pre-Activities:

1. Compose an e-mail message asking for classes around the United States to send short essays on issues of pollution in their specific areas. Explain that the essays should describe the pollution, its source, and the effects. Include a due date (give them at least six weeks) and promise to distribute all received essays and the final product of the activity to all contributing classes. Also ask teachers who plan to contribute to send a short message identifying their intent in the next week or so. This will give you an idea of how much participation to expect.
2. Schedule two class periods to work in the school media center.

Activity:

Day 1

1. Explain to the class that they are going to work on a project that compares environmental issues in the United States to issues in Europe and the former Soviet Union. Tell them that they will be conducting research in the media center and then telecomputing to gather information in the United States.
2. Distribute a copy of the e-mail message that you have already composed. Tell the class that this e-mail message is going to be sent to teachers across the United States. Ask the class to read the message and to make any suggestions to improve the message.
3. Take the class to the classroom or school telecomputing center. If available, use an LCD Panel so that the entire class can view the online session. Login to the online service describing the operation as it progresses. Ask students questions about what you are doing, requiring them to use the proper terminology.

Day 2 and 3

1. Explain to the class that they are going to the media center to research environmental issues in Europe and the former Soviet Union.
2. Divide the class into groups of four. Assign each group a category of media to concentrate on in their investigation (reference books, periodicals, other books, electronic media (CD-ROM), etc.).
3. Take the class to the media center for two days to conduct their research. The days do not have to be consecutive.

Computer Skills: (Gr. 6)

3.4 Use telecomputing hardware and software to communicate with a distant computer or an online service.

Day 4

1. Have students word process their notes, editing them for clarity, and print them. Their names should be on their notes so that credit can be given in the final product.
2. Give each class member a copy of all the printed notes that were collected in the media center. Ask the class to read their notes and to become familiar with the information contained in them.

Day 5

1. Over the month since posting the call for contributions, monitor your e-mail so that you will be aware of responses received.
2. On or after the due date (when you have a number of messages from other classes across the United States) take the class back to the classroom or school telecomputing center. Use an LCD Panel so that the entire class can view the online session, if one is available. Login to the online service describing the operation as it progresses. Ask students questions about what you are doing requiring them to use the proper terminology.
3. Retrieve the essays from other classes and print them.
4. Make five copies of each essay and organize them so that students can share them.
5. Assign the class over the next week to use the notes collected from the media center and the essays from other classes to write their own essay comparing environmental issues in the United States to those in Europe and the former Soviet Union.

Day 6 and 7

1. Collect and evaluate each essay. Have the writers of the two or three best essays, word process them. You might have the students with the best essays read them in class. You might also send the best one to the local newspaper with a description of the project.
2. Combine the essays received from other classrooms, and the two or three best essays written by your class into a single e-mail message. Take the class back to the classroom or school telecomputing center and post that e-mail message to all of the classes who contributed to the project. Also, send a second message thanking them for the contributions. Again, ask students questions about what you are doing, requiring them to use the proper terminology.

Measure

Have students write a report describing the advantages of information on climate that is retrieved from an online service to related information from a print source, such as a newspaper, encyclopedia, textbook, etc.

ISSUES
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Computer Skills Curriculum

7

Title: Weather Project
Grade: 6
Competency 3.3: Use telecomputing hardware and software to communicate with a distant computer or an online service.
Measure 3.3.1: Collect weather data for one week to exchange with another class in North Carolina.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.3 The learner will analyze, synthesize, and organize information and discover related ideas, concepts, and generalizations.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Science: (Gr. 7)

2.5 Demonstrate the ability to measure.

4.1 Exhibit a positive attitude toward learning and experiencing science.

Information Skills

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

Computer Skills: (Gr. 6)

3.3 Use telecomputing hardware and software to communicate with a distant computer or an online service.

Materials Needed: An account on a telecomputing service that provides e-mail access to other teachers in North Carolina; a computer with modem and phone line; LCD Panel (Optional); word processing and telecomputing software; thermometer and weather vane; weather map handout for every two students.

Time: Seven class sessions -- a Monday through Friday for about 15 minutes each, 15 minutes on the following Monday, and an entire class session on Tuesday.

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Activities

Pre-Activities:

1. Compose an e-mail message asking for classes across North Carolina to participate in a state-wide weather project. Explain that classes will be collecting weather data for one week and at the end of that week, they will telecompute the data to all participating classes. (You might check with the system operator of your online serve to see if he/she can set up a temporary group mailing system so that messages can easily be sent to all project participants.) The data will include temperature, wind direction, type of precipitation, and amount of cloud cover. (You may choose to include more weather data than this.) Include in the message the template below for reporting the weather data:

   The message should ask teachers who would like to participate to respond within one week so that you can better organize the activity. Students can then use the data to create weather maps using appropriate symbols. Send this message at least six weeks before the target week.

```
Temperature:
Wind Direction:
Clouds
          Cloudy:
   Partly Cloudy:
         Sunny:
Precipitation
           Rain:
  Frozen Precip.:
     No Precip.:
```

2. Schedule time at the school telecomputing center for the Monday after the data collection week.

Activity:

Day 1-5 (Monday - Friday)

1. Explain to the class that they will be collecting weather data each day this week, while other classes in North Carolina will be doing the same. Tell them that at the end of the week, each of the classes will be sending their collected data to <your school> via telecomputing. Explain that the class will be using the data on the following Monday to create weather maps of North Carolina for the week.

2. Take the class outside with a thermometer and weather vane and have a member of the class write down the temperature, wind direction, cloud cover, and precipitation.
3. Return to the classroom and have a member of the class to use word processing software to record the data on the template shown below.
4. Continue this process each day through Friday creating a new copy of the template for each day's data. The templates should all be on the same file.
5. At the end of Friday's recording, take the class to the classroom or school telecomputing center. If available, use an LCD Panel so that the entire class can view the online session. Login to the online service describing the operation as it progresses. Ask students questions about what you are doing, requiring them to use the proper terminology.
6. Upload the file that contains the week's collected weather data to all participating classes.

```
Temperature: 42 degrees F
Wind Direction: Northeast
Clouds
            Cloudy:
     Partly Cloudy:      X
             Sunny:
Precipitation
              Rain:
    Frozen Precip.:
        No Precip.:      X
```

Day 6 (the following Monday)

1. Take the class back to the classroom or school telecomputing center. Use an LCD Panel if available. Login to the online service and ask students questions about what you are doing. Retrieve all of the weather data that has been posted by the other participating classes.

Day 7 (Tuesday)

Preparation:

1. Make copies of the weather data from each site for every two students in your class.
2. Divide the class into pairs. Give each pair a copy of the collected weather data and a copy of the Weather Map Handout.
3. Ask the class to record the weather data collected from all of the participating North Carolina sites on each day's map using appropriate weather symbols.
4. At the end of the class period collect the maps, check them for accuracy, and then post them on a bulletin board.

Measure

Have students use the ideas from the Weather Project to write a paper on the following (or similar) topic: "The Pros and Cons of Using Telecomputing to Monitor Pollution in North Carolina Rivers."

Weather Map Handout

Names: _____

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bulletin board service (BBS): A place on the network where public messages can be left and one message can reach all users.

download: Transferring information electronically from another computer to your computer.

e-mail: Private messages, called electronic mail, that are sent and received over a computer network.

information highway: A term used when discussing information networks of the future which will likely carry video and audio as well as computer data.

Internet: A global network of thousands of other computer networks that offers e-mail and information retrieval services to millions of people.

log off: The act of signing off of and disconnecting from a computer system.

log on: The act of connecting with a computer system and entering your user identification and password.

modem: A device that permits a computer to transmit and receive data over a telephone line.

telecomputing: The act of sending (or receiving) information to another computer via modem and phone line or local area networks (LAN). The exchange of information can be within a building or around the globe.

upload: Sending a disk file from your computer to another computer.

Primary source of definitions: Understanding Computer Through Applications (Student's Book and Teacher's Guide); Glencoe, Macmillan/McGraw-Hill.